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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,887	07/02/2003	Leroy J. Ohlsen	690089.404C2	6875
31740	7590	02/13/2006	EXAMINER	
THOMAS LOOP P.O. BOX 21466 SEATTLE, WA 98111			CANTELMO, GREGG	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,887

Applicant(s)

OHLSEN ET AL.

Examiner

Gregg Cantelmo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 is/are allowed.
- 6) ☒ Claim(s) 7 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/26/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Applicant's claim for domestic priority to U.S. Provisional Application Serial No. 60/393,632, filed on July 3, 2002 is acknowledged.

Information Disclosure Statement

2. The information disclosure statement filed July 26, 2004 has been placed in the application file and the information referred to therein has been considered as to the merits.

Drawings

3. The drawings received May 20, 2004 are acceptable for examination purposes.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,924,054 (Prasad) in view of either U.S. Patent Application Publication No. 2003/0148166 (DeJohn) or U.S. Patent No. 6,558,825 (Faris) or U.S. Patent No. 5,778,679 (Celorier).

Prasad discloses a closed liquid fuel cell system comprising: a housing structure that retains a fuel cell assembly 12 (Fig. 1) and a detachable cartridge 20 in fluid communication with the fuel cell assembly 12.

The cartridge includes a fuel reservoir 24 and fuel effluent recovery reservoir 26 disposed in the cartridge (Fig. 2). In a further embodiment, the cartridge includes a first reservoir 424, second reservoir 428 and an effluent reservoir 426.

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Prasad does not teach or suggest providing the effluent reservoir in the manner claimed so that the effluent reservoir is within a portion of either the first or second reservoirs.

Prasad did recognize the need to recover fuel cell effluent in portable devices by reclaiming effluent in the reactant cartridge supplied to the fuel cell powered portable electronic device.

DeJohn discloses that it is known to recover fuel cell effluent in portable devices by reclaiming effluent within the same container 14 t the reactant is provided in and thus in the same volume as the reactant reservoir itself (see figures). A similar concept is shown in Faris (element 14 of Fig. 1) and Celorier (Figs. 1 and 2).

The motivation for providing this arrangement is that it provides a regulated and controlled metering of the reactant from the cartridge to the fuel cell during operation.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Prasad by recovering fuel cell effluent in portable devices by reclaiming effluent within the same container that the reactant is in since it would have provided a regulated and controlled metering of the reactant from the cartridge to the fuel cell during operation.

Allowable Subject Matter

8. Claims 1-6 allowed.

The following is an examiner's statement of reasons for allowance: none

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of the prior art of record appears to teach, fairly suggest or render obvious the invention of claims 1-6. In particular:

The prior art of record does not teach, fairly suggest or render obvious the claimed cartridge design in any of claims 1-6.

U.S. Patent No. 6,924,054 (Prasad) discloses a cartridge which includes a reactant chamber or two reactant chambers as shown in Fig. 14. However, the reactant chamber is separate from the waste chamber and further only teaches of a single waste chamber. The prior art does not teach or reasonably suggest providing the effluent reservoirs (claim 1), wastestream reservoirs (claim 4).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record appears to teach, fairly suggest or render obvious the invention of claim 8. In particular: of the reactants being methanol and hydrogen peroxide.

In the embodiment of Fig. 14 of Prasad, the fuel reactant reservoir includes a reactant such as methanol. Yet the second reservoir includes a borohydride as a component for the fuel. One of ordinary skill in the art would

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not have found it obvious to replace the borohydride with hydrogen peroxide since the borohydride is required as a supplement for the fuel (hydrogen) whereas hydrogen peroxide is provided as an oxidant source. Providing hydrogen peroxide would destroy the required function and teaching of the borohydride chamber of Prasad.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 5,723,229 (Scheifers) discloses a portable fuel cell comprising close-loop reactant supplies to the fuel cell.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (571) 272-1283. The examiner can normally be reached on Monday to Thursday from 9 a.m. to 6 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. FAXES received after 4 p.m. will not be processed until the following business day. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on

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access to the Private PAIR system, contact the Electronic Business Center
(EBC) at 866-217-9197 (toll-free).

Gregg Cantelmo
Primary Examiner
Art Unit 1745

gc 
February 7, 2006